

Soviet Science and Techno-Utopia



Photo: «AEC + Φ » (from series *Action Half-Life*)

Course Description

This course is designed to introduce students to the history of science and engineering in the context of the Soviet Union, from the Industrial Revolution through the Cold War and post-Cold War period. A major component of the course will focus on the historical personalities, experiments, images (photographs and films), writings, and institutions that were involved in the successes and failures of the Soviet Union as a modern scientific and technological superpower. After the Russian Revolution there was a research boom in visionary biology characteristic of “big science.” Research was focused on revolutionary engineering, pathological changes, including metabolism, reproduction, nervous and endocrine regulation, cell division, psychology, immunity, and heredity. This course will study the innovations in Soviet science against its socio-historical background. From the Soviet atomic bomb and the design of warfare submarines to utopian ideas of growing summer crops in the winter, from importing Ford tractors to cloning IBM computers and the co-founding of Google by Sergey Brin, the Soviet Union placed science and technology at the forefront of its vision of human progress.

The objectives:

Home to many technological achievements – and infamous ecological disasters – the Soviet Union was a place where the deeds, words and images of technological utopianism had transformative power over nature and society. Some of the questions we will ask while learning about the planning and realization of technological megaprojects by the Soviet state:

- ! How do the inventions, experiments, and scientific processes in the Soviet Union compare and contrast with Western ideals and ethics concerning science?
- ! What has Western science learned from the successes and failures of Soviet science and vice versa?
- ! What literature (both sci-fi and classic) was inspired by this historical technological progress?

The language of instruction in this course is English. Organized around different themes and methodologies, our readings include important works by anthropologists, sociologists, and philosophers, as well as by historians of science and technology. Historical questions about the great experiments of the 20th-century will be paramount, while aesthetic and epistemological problems will also be engaged.

Recommended but not required reading:

David Joravsky: *Soviet Marxism and Natural Science, 1917-1932*. New York: Columbia UP, 1961.

Russia at War: From the Mongol Conquest to Afghanistan, Chechnya, and Beyond. Ed. Timothy Dowling. 2015

Week 1. Lenin and the Russian Revolution

Slavoj Žižek, “Between Two Revolutions.” In *Revolution at the Gates. A Selection of Writings from February to October 1917 by V. I. Lenin*. Ed. S. Žižek, London: Verso, p 1-15.

Vladimir Lenin, “The State and Revolution.” In *The Lenin Anthology*. Ed. Robert Tucker, NY: Norton and Co., p 311-350; 369-384.

Alexander Bogdanov, *Red Star*

Week 2. Soviet Frankenstein

Mikhail Bulgakov, *Heart of a Dog* (1925).

Daniel P. Todes, “Ivan Pavlov’s Physiological Factory,” *Isis* 88 (1997): 205–246.

Week 3. Learning to Live: Trotsky and the New Soviet Man

Leon Trotsky, *Problems of Everyday Life*. New York: Monad Press. *Excerpts*.

Susan Buck-Morss “Culture for the Masses,” and “Dream and Awakening.” In Buck-Morss, S. *Dreamworld and Catastrophe*, pp. 134-172; 178-211.

Week 4. Soviet Youth Behavior Studies and Healthy Sexual Development

Eric Naiman, *Sex in Public: The Incarnation of Early Soviet Ideology* (1997), **Introduction only: 3-25.**

Sigmund Freud, “Beyond the Pleasure Principle” in *The Complete Psychological Works of Sigmund Freud*, **23 -page excerpt.**

Joravsky, David. *Russian Psychology: A Critical History*. Cambridge, MA: Basil Blackwell, 1989. **Excerpt.**

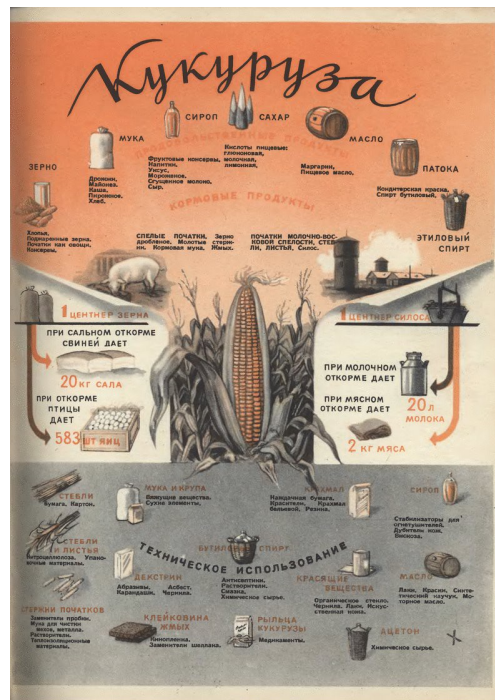
Susanna Weygandt, “The Politics of Bioplasticity in the Art and Science of Konstantin Stanislavsky, Trofim Lysenko, and Aron Zalkind.” *New Literary Observer* (forthcoming Fall 2017)

Week 5. CCCP Cafeteria Cuisine

“Cold War Cuisine: Notes from the CCCP Cookbook” *The Calvert Journal* (2017)

<https://calvertjournal.com/features/show/4745/soviet-food-stories-cold-war-cuisine-cccp-cookbook>

“How Russia’s Shared Kitchens Helped Shape Soviet Politics,” *NPR Public Broadcasting* (20 May 2014) <http://www.npr.org/sections/thesalt/2014/05/20/314054405/how-russias-shared-kitchens-helped-shape-soviet-politics>



Week 6. Summer Crops in a Winter Climate and Utopian Plant Genetics

Churchill, Frederick. "Heredity Theory to *Vererbung*: The Transmission Problem, 1850-1915," *The History of Science Society*. Vol. 78, No 3 (Sep. 1987). The University of Chicago Press: The History of Science Society. Pp. 336-364.

Lysenko, T.D. *Agrobiology: Essays on Problems of Genetics, Plant Breeding and Seed Growth*, M.: Foreign Languages Publishing, 1954. *Excerpts*.

Krementsov, Nicolai, "From 'Beastly Philosophy' to Medical Genetics: Eugenics in Russian and the Soviet Union." *Annals of Science*, Toronto: University of Toronto, December 6, 2010.

Film Screening (time and room TBA):

Celebrity Lives: Michurin (biopic film, 1948, directed by Iiuliia Solntseva).



Week 7. Lysenkoism and 'Pliant' Heredity in Plants

Gasparov, Boris, "Development or Rebuilding: Views of Academician T.D. Lysenko in the Context of the Late Avant-Garde." In *Laboratory of Dreams*, Eds. John Bowlit and Olga Match, Stanford: Stanford UP. Pp. 133-152.

Nils Roll-Hansen, "Wishful Science: The Persistence of T. D. Lysenko's Agrobiology in the Politics of Science," *Osiris* 23 (2008): 166-188.

William deJong-Lambert, "From Eugenics to Lysenkoism: The Evolution of Stanisław Skowron," *Historical Studies in the Natural Sciences* 39 (2009): 269-299.

Week 8. Bioplasticity, Soft-Matter, and Objects as Actants

D.W. Winnicott, "Transitional Objects and Transitional Phenomena," *TOR*.

Susan Leigh Star and James R. Griesemer, "Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-1939," *Social Studies of Science* 19 (1988): 387-420.

Boris Arvatov "Everyday Life and the Culture of the Thing," translated by Christina Kiaer. *October*, Vol. 81 (Summer, 1997), pp. 119-128.

Sherry Turkle *Alone Together: Why We Expect More from Technology and Less from Eachother* (2011).

Excerpts.

Week 9. Ergonomics in Soviet Design

Yulia Karpova, “Designer Socialism: The Aesthetic Turn in Soviet Russia,” Dissertation for the Department of History, Central European University, Budapest, Hungary (2016). We will focus on chapters “Bioplasticity in Soviet Design;” “Soviet Ergonomics;” and “Updating the Material Environment.”

Film Screening (room and time TBA):

Amphibian Man (1962, filmed in Cuba, directed by Vladimir Chebotaryov and Gennadi Kazansky).

Week 10. Post-Nuclear Ethnographies

Svetlana Aleksievich (2015 Nobel Prize Laureate), *Voices from Chernobyl* (1997).

Jane I. Dawson, *Eco-Nationalism: Anti-Nuclear Activism and National Identity in Russia, Lithuania, and*

Ukraine (Durham: Duke University Press, 1996). *Excerpts.*

Michael Marder and Anaïs Tondeur, *The Chernobyl Herbarium: Fragments of an Exploded Consciousness* (2017). *Excerpts.*

Week 11. Cybernetics and The Internet

Slava Gerovtich, *From Newspeak to Cyberspeak: A History of Soviet Cybernetics* (MIT Press, 2002) *Excerpts.*

Benjamin Peters, *How Not to Network a Nation: The Uneasy History of the Soviet Internet* (2016)

Benjamin Peters, “The Soviet InterNyet” Aeon Media Group (2017).

<https://aeon.co/essays/how-the-soviets-invented-the-internet-and-why-it-didn-t-work>

Week 12. Cold Fusion

Bruce Lewenstein, “Cold Fusion and Hot History,” *Osiris*, Vol. 7 (1992): 135-163.

“Putin Cold Fusion in Russia Ahead of the World,” *Atom Ecology* (2017)

<http://atom-ecology.russgeorge.net/2015/03/19/putin-cold-fusion-in-russia/>

Yuri Bazhatov, interviewed by Peter Gluck for *Cold Fusion Now* (2017)

<https://coldfusionnow.org/tag/russia/>



Writing Assignments

Students will complete three written assignments: 1). A 5-7 page essay comparing and contrasting two articles on the syllabus; 2). A summary of a book review (this assignment is designed to improve writing skills and guide students in the art of book review writing); 3). A final research paper (12-15 pages) OR a final book review essay on up to three recently published books of choice (thus allowing students to explore books that match their own research inquiry). *Historical Studies in the Natural Sciences* journal runs long, thematic reviews of several books each—that's what I have in mind.

I will weave into class formal instruction about writing.

In preparation for the final assignment (whether it is a research paper or a long book review essay), students will submit a detailed outline. I will meet with each student in my office to discuss the outline, making sure that there is an argument backed up with examples, clear topic sentences for each paragraph, and that all the topic sentences and components of the outline relate. I will provide students with written feedback on the final writing assignment and all other writing assignments.